

XII.—*Hemiptera from the North-eastern Frontier of India.* By W. L. DISTANT.

[Continued from p. 53.]

THE following paper continues and concludes the enumeration and description of the Hemiptera collected by Mr. A. W. Chennell. As regards the geographical distribution of the species contained in this portion of the collection, some few are Philippine forms, but many more are also common to China. This may serve as an introduction to the Heteropterous fauna of the region, but cannot in any sense be considered exhaustive. The Capsidæ are totally unrepresented; and many species in other families, from Assam, have been described and received which were not taken by Mr. Chennell.

Fam. MICTIDÆ.

- Dalader acuticosta*, A. & S.
 — *planiventris*, Hope.
Derepteryx Hardwickii, White.
Helcomeria spinosa, Sign.
Prionolomia gigas, n. sp.
 — *fulvicornis*, Fab.
 — *biplagiata*, Walk.
Mictis tenebrosa, Fab.
 — *nigrorufa*, Walk.
 — *pictor*, Fab.
Anoplocnemis phasianus, Fab.
 — *compressa*, Dall.
Petillia grossa, Dall.
Physomerus calcar, Fab.
Notobitus excellens, n. sp.
 — *meleagris*, Fab.
 — *marginalis*, Hope.
 — *serripes*, Dall.
Cloresmus nepalensis, Hope.
 — *brevicornis*, H.-S.

Fam. HOMŒOCERIDÆ.

- Homœocerus biguttatus*, Hope.
 — *unipunctatus*, Thunb.
 — sp.
 — *fascifer*, Stål, var. Walk.

Fam. ANISOSCELIDÆ.

- Leptoglossus membranaceus*, Fab.
Lybas obscurus, Dall.

Fam. ALYDIDÆ.

- Riptortus pedestris*, Fab.

Fam. STENOCEPHALIDÆ.

- Leptocoris varicornis*, Fab.

Fam. COREIDÆ.

- Cletus calumniator*, Fab.
 — *punctulatus*, Hope.
Cletomorpha denticulata, Stål,
 var.
Acanthocoris scabrator, Fab.
Petalocnemis obscura, Dall.

Fam. LYGÆIDÆ.

- Lygæus familiaris*, Fab.
 — *nigriceps*, Dall.
Graptostethus servus, Fab.
 — *trisinatus*, n. sp.
 — *quadrisinatus*, n. sp.
Pachymerus sordidus, Fab.
 — *anticus*, Walk.
Dienches uniguttatus, Thunb.
Bochrus foveatus, n. sp.

Fam. PYRRHOCORIDÆ.

- Lohita grandis*, Gray.
 — *longissima*, Stål, qu. *grandis*,
 var.?
Iphita limbata, Stål.
Physopelta gutta, Burm.
 — *Schlanbuschii*, Fab.
Antilochus russus, Stål.
 — *Coquebertii*, Fab.
Ectatops limbatus, A. & S.
Melampus faber, Fab.
Dindymus rubiginosus, Fab.
 — *lanius*, Stål.
Pyrrhocoris vittiventris, Walk.
Dysdercus cingulatus, Fab.

Fam. PHYMATIDÆ.

- Amblythyreus angustus*, West.

Fam. BRACHYRHYNCHIDÆ.

Brachyrhynchus membranaceus,
Fab.

Fam. REDUVIIDÆ.

Isyndus heros, *Fab.*

Endochus famulus, *Stål.*

Euagoras plagiatus, *Burm.*

Sycanus collaris, *Fab.*

Velinus annulatus, n. sp.

Cosmolestes annulipes, n. sp.

Reduvius marginellus, *Fab.*

— *mendicus*, *Stål.*

— *costalis*, *Stål.*

— ? *pulchriventris*, *Stål.*

— *nigricollis*, *Dall.* (var.)

Fam. ECTRICHODIDÆ.

Vilius melanopterus, *Stål.*

Physorhynchus tuberculatus,
Stål.

Ectrychotes pilicornis, *Fab.*

Scadra, sp. (allied to *fuscicrus*,
Stål., var.?).

Fam. PIRATIDÆ.

Pirates atro-maculatus, *Stål.*

Lestomerus affinis, *Serv.*

Androclous granulatus, *Stål.*

Fam. ACANTHASPIDIDÆ.

Sminthus fuscipennis.

Acanthaspis quinquespinosa, *Fab.*

— *helluo*, *Stål.*

— *cincticus*, *Stål.*

Centrocnemis, sp. ? (mutilated).

Fam. STENOPODIDÆ.

Oncocephalus annulipes, *Stål.*

Fam. BELOSTOMIDÆ.

Belostoma indica, *St.-Farg.* &
Serv.

Fam. NEPIDÆ.

Laccotrephes robustus, *Stål.*

— *ruber*, *Linn.*

— *japonensis*, *Scott.*

NOTES AND DESCRIPTIONS.

Prionolomia gigas, n. sp.

Brown, somewhat shining, more or less clothed with short whitish hairs. Antennæ brown; first joint almost equal in length to second and third together, third joint much shorter than second (remainder mutilated). Rostrum reaching beyond anterior coxæ; third and fourth joints luteous, tip black. Pronotum rugose, granulate, the lateral angles very prominent, produced somewhat upwards and forwards, gradually narrowed to the apex, and very strongly serrated on both sides, the serration continued, but gradually diminishing in strength along the lateral margins to head; a transverse impression a little before anterior border, and another with a small acute tubercle at each end near posterior border, and three longitudinal linear impressions, of which the central one is the most distinct. Scutellum transversely and coarsely strigose, with the extreme tip luteous. Corium obscurely granulate; membrane brassy brown. Abdomen above red with the marginal borders black. Underside of body slightly darker in colour than upper surface. Sternum with an oblique whitish band on each side. Anterior and intermediate legs brown, with the tarsi dull reddish and the tibiæ subdilated; posterior legs darker in colour, the hind femora very much thickened, somewhat narrowed at base and apex, armed with strong black tubercles along the whole inner half of the upper surface, a moderately strong

black tooth on inner margin near apex, and a longitudinal row of black tubercles beneath; hind tibiæ moderately dilated on both sides, strongly angulated a little beyond the middle of inner side, after which they are narrowed and finely serrated to apex; tarsi with apical joints reddish.

Long. 43 millims., exp. pronot. ang. 19 millims., lat. at base of corium $11\frac{1}{2}$ millims.

North Khasia hills, 1500 to 3000 feet.

Its large size will readily distinguish this species from any other of the genus at present described. *P. malaya*, Stål, is the most nearly allied form; but the shape of the pronotum is different.

Notobitus excellens, n. sp.

♂. Head and pronotum brassy black. Antennæ with the first three joints subequal, brassy black; apical joint longest, luteous, with its apical half fuscous. Rostrum extending nearly to intermediate coxæ; last two joints obscure luteous. Eyes luteous. Pronotum very finely granulate, lateral angles very slightly prominent and rounded; near the posterior basal side of each of these is a small hollowed impression, on inner side of which is a very obscure, small, tuberculous irregularity. Scutellum very finely granulate, brassy black, becoming brownish towards apex. Corium brown, very obscurely and faintly pilose. Membrane brassy brown. Abdomen above black with *inconstant* luteous markings. Underside of body and legs brassy black, anterior and intermediate tibiæ with their apical halves brunneous, tarsi dull luteous. Posterior femora much thickened, sparingly covered with small raised points and with a row of acute tubercles on upper surface; a strong and curved spine a little beyond middle beneath; between this and the base are two smaller ones, gradually decreasing in size, and another between it and the apex, where there are two spines. Posterior tibiæ moderately curved, inner margin denticulated, some teeth much larger than others.

Long. 30 millims., exp. pronot. ang. 9 millims.

♀. Differs from ♂ in being uniformly pale brown above; and it is also lighter in colour beneath than the other sex. Legs brown; fore and intermediate tibiæ with apical halves paler; tarsi dull luteous, as in ♂.

Long. 31 millims., exp. pronot. ang. 10 millims.

North Khasia hills, 1500 to 3000 feet; Naga hills, 2000 to 6000 feet; Sadia, north of Brahmaputra, 350 feet.

Cloresmus brevicornis, H.-S.*Nematopus brevicornis*, H.-S. W. ix. 261, f. 995 (1851).

Previous writers, probably having never seen this species, have considered it synonymous with *C. nepalensis*, Hope. It is, however, very distinct from that species, agreeing both in colour, size, and markings with Herrich-Schäffer's description and figure (the last does not show the apical joint of antenna luteous, as it should do). The armature of the posterior femora, however, is the most distinctive character. The collection contained both sexes.

Cletomorpha denticulata, Stål.*Cletomorpha denticulata*, Stål, Ö. V. A. F. 1870, p. 652.

Var. Agrees with the description of the Philippine form, with the exception of having a narrow fascia across the corium, near apex, and not "maculaque parva rotundata ad marginem apicalem prope angulum-interiorem pallidis."

Graptostethus trisignatus, n. sp.

Red. Rostrum, antennæ, eyes, a narrow transverse patch (divided into two in a second specimen) at base of head between eyes, two large subglobular spots at base of pronotum, situated nearer to each other than to lateral borders (more irregular in shape in the second specimen), scutellum, membrane (excluding apical border), apical segment of abdomen, legs, and three spots on each lateral border of sternum (situated one on prosternum, one on mesosternum, and one on metasternum) black. Apical border of membrane whitish. The basal joint of the rostrum extends some little distance over the apex of the prosternum; the second joint of the antennæ is much longer than the third (fourth wanting); and the legs are clothed with whitish pile.

Long. $7\frac{1}{2}$ to 10 millims.

Naga hills, 2000 to 6000 feet; North Khasia hills, 1500 to 3000 feet.

Graptostethus quadrisignatus, n. sp.

Red. Rostrum, antennæ, eyes, apex of central lobe of the head, apical border of pronotum (broadest on disk, and not quite reaching lateral borders), a -shaped fascia on each posterior pronotal angle, scutellum, membrane (excluding apical borders), disk of apical segment of abdomen, legs, and four spots on each lateral border of sternum (situated two on prosternum, one on mesosternum, and one on metasternum) black. Apical border of membrane whitish. The basal joint

of the rostrum only just passes the apex of the pronotum. Antennæ slightly pilose; second joint longest, fourth a little longer than third. Legs clothed with whitish pile.

Long. 10 to 11 millims.

Var. a. Disk of corium and disk of underside of abdomen blackish.

North Khasia hills, 1500 to 3000 feet.

Allied to *C. trisignatus*, but very distinct.

Bochrus foveatus, n. sp.

Black; apical half of clavus with a luteous discal streak; corium with a somewhat broad fascia, slightly widened and rounded at apex, extending from base along the whole length of inner margin, luteous, and the costal margin of corium narrowly and obscurely of the same colour. Membrane luteous, with an angulated basal patch and the nervures black; a large semicircular spot occupying greater part of disk fuscous. Rostrum, coxæ, and tarsi castaneous. Antennæ pilose; second, third, and fourth joints subequal, slightly and gradually diminishing in length; basal joint and apex of central lobe of the head somewhat castaneous. Pronotum somewhat coarsely punctate, with two large foveæ, situated transversely and close together on disk, immediately in front of which are three small rounded and punctured impressions, and a large marginal fovea on each lateral border.

The head, pronotum, disk of scutellum, a narrow central longitudinal discal streak on corium, legs, and underside of body, excepting borders of odoriferous apertures, are shining black; remainder of coloration much more opaque.

Long. 10 millims., greatest lat. 4 millims.

Eastern Garo hills, 1500 to 2500 feet.

Velinus annulatus, n. sp.

Head above black, with the sides of the apex, a central longitudinal line (interrupted in the middle, and not reaching base nor extending beyond base of antennæ), two large lateral spots immediately above eyes, and two smaller streaks, one on each inner margin of eyes, luteous; underside of head luteous, with a small oblique streak behind eyes black. Antennæ black; basal joint with three luteous bands, the first near base and the third at apex; apical joint fuscous. Scutellum black, apex luteous. Corium reddish brown; membrane pale transparent fuscous (when the wings are folded the membrane appears blackish from the colour of the upper surface of the abdomen, which is laterally bordered with alternate luteous

and black spots). Underside of body luteous; sternum with two marginal black spots, one on mesosternum and the other on metasternum. Femora luteous, with the apices and four distinct somewhat knotted bands black; tibiae with the basal third black, annulated with two luteous bands, remainder of tibiae and tarsi dark fuscous.

The anterior and posterior lobes of the pronotum are profoundly sulcated through half their length, much more deeply so the anterior, which is thus bilobed. The frontal pronotal tubercles are acute and prominent. The abdomen has the lateral borders of the fourth and fifth segments more dilated in the ♀ than in the ♂. The rostrum has the second joint much longer than the first, and the tip pitchy. The membrane projects considerably beyond the apex of abdomen.

Long. 15 millims.

Eastern Garo hills, 1500 to 2500 feet; North Khasia hills, 1500 to 3000 feet.

Note.—I have seen another specimen of the species from West Yunnan.

Cosmolestes annulipes, n. sp.

Head black, shining; a Y-shaped mark situated on the centre of frontal part, a little behind base of antennae, a transverse angular streak on each side of the inner margin of eyes, and a central longitudinal line extending along disk of hinder part of head behind eyes above, a lateral row of three spots on each side (one at base of antennae, one behind eyes, and the other, smallest, near base of head), and the whole central portion of underside luteous. Rostrum luteous, with tip and apex of first joint blackish. Antennae castaneous, base black; first joint plainly and narrowly annulated with dull ochreous near base, centre, and apex. Frontal lobe of pronotum black, with an anterior marginal border; frontal lateral tubercles, and two linear streaks on each side luteous; posterior pronotal lobe testaceous. Scutellum black, with a narrow central line and the apex broadly luteous. Corium obscure testaceous, with a raised, transverse, incrassated, slightly waved fascia at apical margin, shining luteous. Wings obscure fuscous. Abdominal margin luteous, with a segmental row of black spots.

Underside of abdomen luteous, transverse margins of abdominal segments on disk black; lateral borders black, in which are enclosed a row of large spots of the luteous ground-colour. Lateral borders of sternum black, in which are enclosed a large luteous spot and a very obscure smaller one. Legs luteous; femora annulated with five black rings (sometimes the rings are composed of two encircling lines), one at base and apex and

three intermediate; tibiæ with two black rings at base, and the hinder portion obscure fuscous.

The frontal lobe of pronotum is profoundly bilobed, the frontal tubercles of which are well developed, prominently acute, and slightly directed forwards. The angles of the hinder lobe are rounded, where there is also an obscure tubercle and a longitudinal impression on each side. The abdomen is slightly dilated on each side.

Long. 10 millims.; lat. at pronot. ang. $2\frac{1}{2}$ millims.

Eastern Garo hills, 1500 to 2500 feet.

The most nearly allied form is *C. picticeps*, Stål.

Reduvius nigricollis, Dall.

Arilus nigricollis, Dall. Tr. E. S. Lond. (2), i. p. 8, pl. ii. f. 5 (1850).

Var. Posterior lobe of pronotum castaneous. Underside of abdomen with three or four transverse, lateral, shining black striæ.

Long. ♂, $12\frac{1}{2}$ millims.; ♀, 15 millims. (as described by Dallas from type).

The Homopterous portion of the collection calls for little remark. It contained two new species, which I have already described, viz. *Tosena splendida*, Dist. Ent. Mo. Mag. vol. xv. p. 76 (1878), and *Phymatostetha binotata*, Dist. Trans. Ent. Soc. Lond. 1878, p. 322.

XIII.—On *Loxosoma* and *Triticella*, Genera of Semiparasitic Polyzoa in the British Seas. By the Rev. A. M. NORMAN, M.A.

Genus LOXOSOMA, Keferstein, 1862.

Loxosoma phascolosomatum, C. Vogt.

1861. "*Strephenterus claviger*, tentacular appendages of," Norman, Ann. & Mag. Nat. Hist. ser. 3, vol. vii. pl. ix. figs. 1-3.

1877. *Loxosoma phascolosomatum*, Carl Vogt, Archives de Zoologie Expérimentale, vol. v. 1877, p. 305; translated by Hincks, Quart. Journ. Mic. Sci. n. s. vol. xvii. 1877, p. 353, pl. xxii. figs. 1-12; Barrois, Mémoire sur l'embryologie des Bryozoaires, p. 8, 9.

In 1861, on examining a bottle of animals which had been dredged by me at Bantry Bay in 1858, I found a Gephyrean which was new to me. It was described in the 'Annals' under the name *Strephenterus claviger*.

Attached to the caudal extremity of this Gephyrean were